

SPACE AND MISSILE DEFENSE CONFERENCE

Huntsville, AL

August 19, 2009

Thank you, Kevin, for that kind introduction, and thanks to John and Debra for inviting me to take part in the conference today.

It's great to return to one of the places I called home during my time in the Astronaut Office. It was here at the Marshall Space Flight Center that my dear friend, Alex McCool, mentored me, as I served as his Astronaut Office Liaison for SR&QA. It was Alex who introduced me to Eunice's Café and Liars' Corner. If you haven't heard about Eunice's Café, ask any of your Huntsville hosts for this conference and you'll probably get some quite interesting stories depending on the age of your storyteller.

NASA and DoD are very different organizations, but when it comes to space activities, we have a common foundation. Space is important to the Nation, regardless of whether the program is tagged with a NASA or DoD insignia.

As I reviewed the agenda for this afternoon, I was pleased to see that you will be discussing head on some of the issues that NASA must also face as we plan, construct, and manage our programs. These issues tie in with several questions I have been thinking about in my first few weeks at the Agency. Let me share with you some of my thoughts about three questions in particular:

- How is NASA relevant to the needs of the Nation?
- How does NASA connect with national and global communities?
- How does NASA inspire and support the next generation to create a thriving pipeline of scientists and engineers for our nation?

I believe that DoD is facing similar questions for its space programs. And because we have a common foundation, I believe that we can find similar answers to those questions.

Let me tell you about how we are answering these questions.

First, how is NASA relevant to the needs of the Nation?

I believe that NASA has a central role to play in meeting the great challenges of our time.

I know this list doesn't get close to detailing all the challenges we need to face, but some of my biggest concerns are meeting environmental challenges, fostering innovation, and pushing forward our exploration of space.

If you heard my testimony at my confirmation hearing, you know that I believe that if it were possible to send up any person that wanted to go, we would all better understand how fragile our planet is and we'd likely work even harder to find peaceful solutions to the differences arising among the nations of the world.

NASA has over a dozen Earth observation and weather satellites, and 100 sensors orbiting the Earth, focused on acquiring data to improve life on our planet. These satellites and instruments provide scientific information about the land, ice, and oceans, as well as critical weather information. Scientists use this data to inform our response to issues of climate change and weather.

I believe that advancing scientific knowledge and fostering innovation is also important. NASA's aeronautics research helps to create more fuel-efficient planes, better-trained pilots, and safer skies. Our science missions are second to none.

Our space operations and exploration programs are creating cutting edge technology. For example, the technology that ensures our ISS crews have drinking water is also being used here on Earth to bring clean drinking water to places that need it, such as East Asia after the 2004 tsunami. That technology, by the way, was made possible by work done at Marshall Space Flight Center.

I believe that exploring space is important and relevant to our nation's future. Humans are, by nature, explorers. We want to know what is on the other side of the hill. We want to know how things work and why things happen the way they do. Our missions inspire people with the knowledge that there is a greater universe full of wonders, available to everyone. But there is a practical side, too. When we send people far away from the protection of the planet, we need to understand how to take care of them in a medical emergency. Our advances in telemedicine have practical

applications here on Earth, for example, helping soldiers in the field far from an operating base.

How does NASA fit into national and global communities?

NASA carries out its mission within a network of national and international communities.

Our national community includes other federal agencies as well as the commercial space sector that supports our activities. We work with agencies such as the National Oceanic and Atmospheric Administration and the United States Geological Service, building and launching earth-observing satellites. We work with the Federal Aviation Administration and the National Transportation Safety Board to make air travel safer and more efficient.

And of course, we work with the Department of Defense in many fields of the aerospace sector: advanced high-altitude hypersonic aircraft, launch range support, orbital debris tracking, unmanned aerial vehicle testing, space communications, space weather, and environmental monitoring.

We have a vibrant commercial space sector that provides launch services, builds satellites and supports the NASA mission in so many other ways. In the future, we look to these companies to help expand the frontier of space exploration.

Our global community is a vital part of our future as a space-faring world. Our international partners are critical to the success of programs like the International Space Station, the Cassini-Huygens mission, and many of our earth-observing and planetary probe missions. We know that whatever our future plans are, we have a better chance of success if we work with our partners, than if we go it alone. In your world as military professionals, you sometimes refer to this type activity as theater engagement.

How do we inspire and support the next generation to create a reliable pipeline of scientists and engineers?

I know we are all concerned with the issue of human capital, and rightly so. We have a crisis in this country today. We do not have enough scientists and engineers to meet the emerging needs of an ever-increasing technical society. We need to send more people to college, especially in the

science, technology, engineering and mathematics fields. Last month, President Obama committed the nation to having the highest proportion of college graduates in the world by 2020. My goal is to make sure that a good number of them come work for me, and that NASA has jobs that hold sufficient interest and challenge to make them want to stay on with us for a career.

We need to invest in our future by inspiring the students of today to become the next generation of scientists and engineers. I want my granddaughters – and your children and grandchildren, nieces, nephews and all the other children in your life – to be excited about space. In the 80s and 90s I would walk into a classroom and ask how many students wanted to be astronauts and I would get every hand raised. When I visit schools today and ask that same question, I might get two or three hands. We need all those hands going up again. We need them going up and saying “I want to be a scientist, an engineer, or even an astronaut.”

Human capital is an issue for DoD as well. NASA and DoD are already working together, partnering in efforts to bring new talent to the aerospace field and to provide inspiration to the Nation's students, for example,

through the DoD Space Professional Development Board, by finding common support for Science, Technology, Engineering and Mathematics (STEM) programs, and assigning experienced personnel as instructors at institutions such as the Naval Post Graduate School, where Astronaut John Phillips has recently been selected as the next NASA Chair in the school's Space Systems Academic Group. It is up to all of us to encourage the students that choose to follow a science or engineering career path.

You and I are working on many of the same challenges. Sometimes it's good to remember that we aren't the only ones fighting the good fight, that all across our country people are working to make this nation a better place. And it's good to see where our challenges cross paths, and think about how we can help each other. As you participate in this afternoon's panels, I encourage you to think about the big questions – about how we can be relevant to our country, how we fit into our different communities, and how we can ensure that we have a thriving workforce to see us into the future.

As I close, let me challenge you with a thought from the late Professor Carroll Quigley of Georgetown University:

“America is the greatest nation in history because our people have always believed two things – That tomorrow can be better than today, and that every one of us has a personal, moral responsibility to make it so.”

Thank you. Enjoy the rest of your time at the conference.